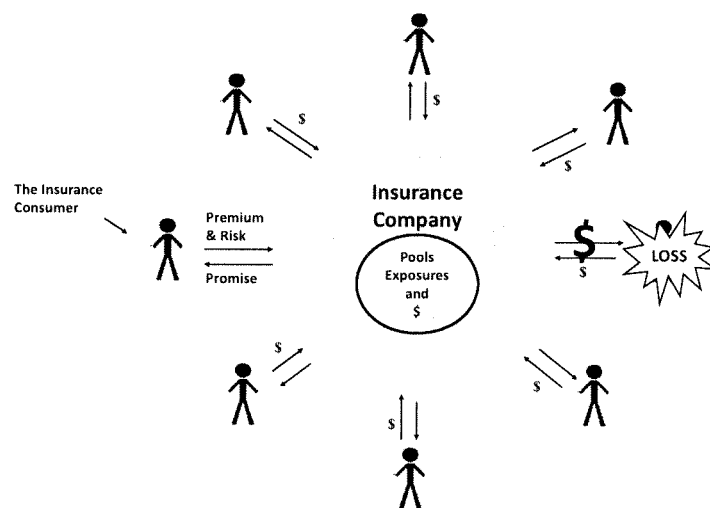


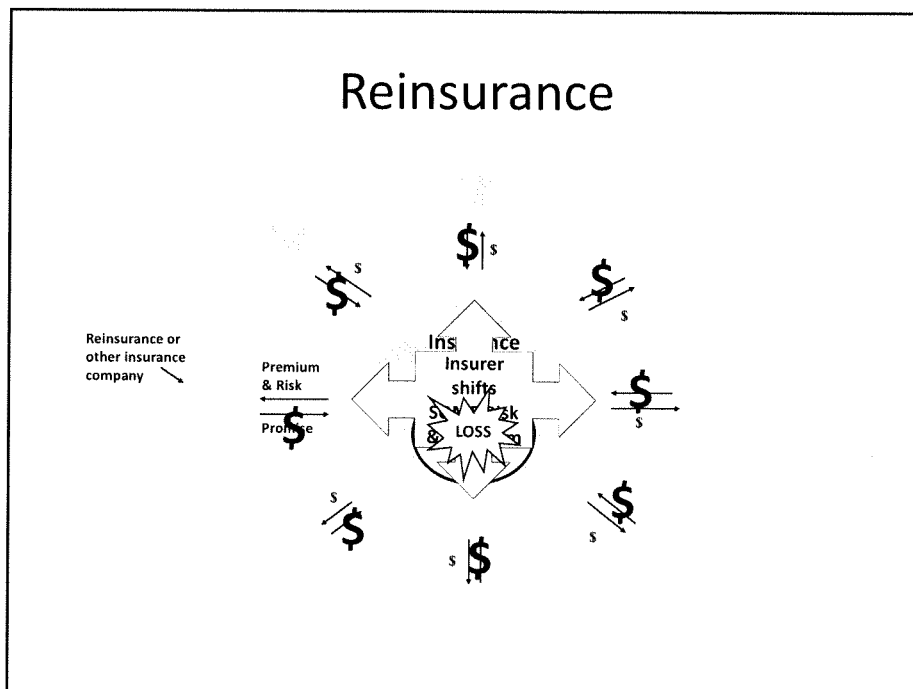
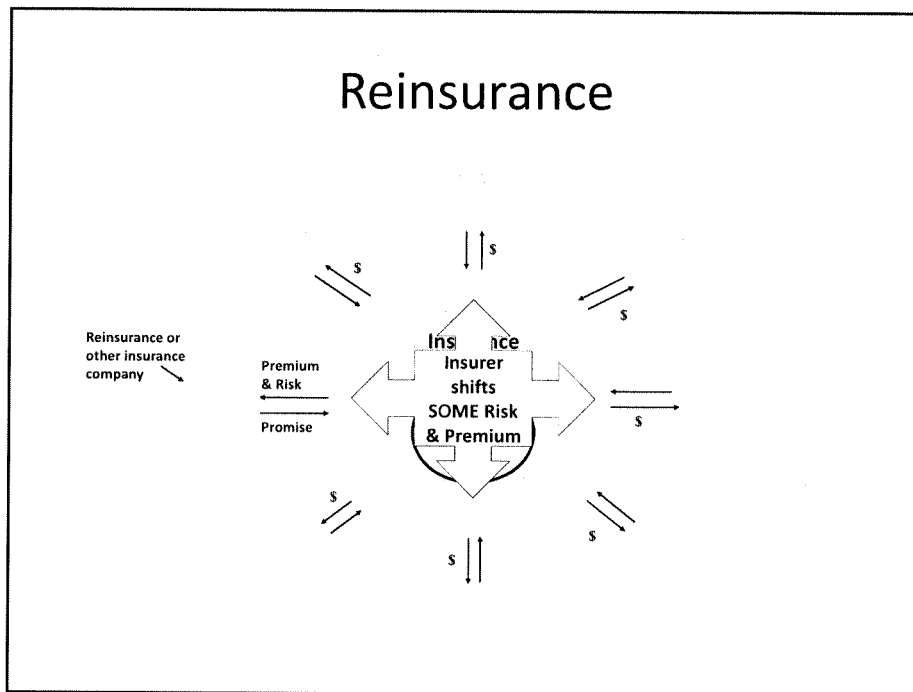
# Insurance 101

for the  
Insurance Committee  
Michigan House of Representatives  
March 7, 2013

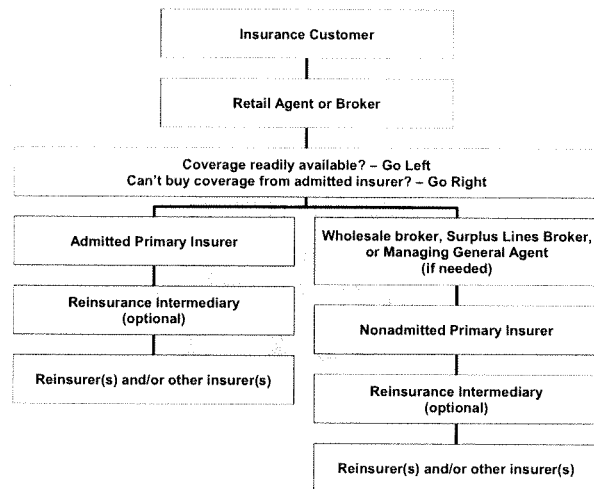
Michael R. Hubbel  
Professor Emeritus  
Risk Management and Insurance

## The Insurance Mechanism





## The Insurance Transaction Chain



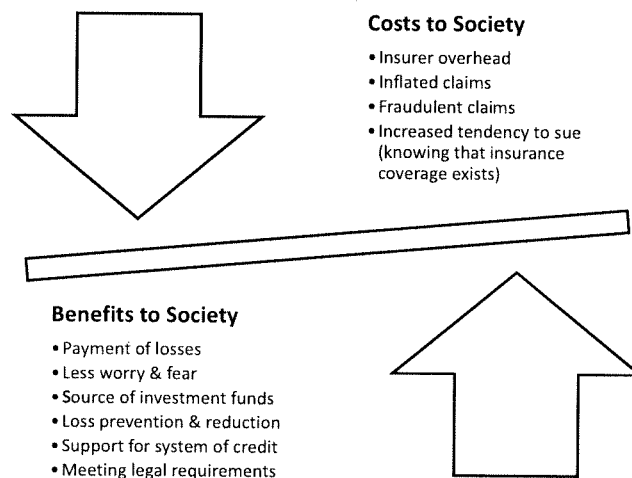
## Size of Insurers

- **Small one state insurers**
  - One geographic, regulatory, political and legal environment
- **Regional insurers**
  - Greater geographic spread of risk
  - Avoid challenging political and legal environments
- **National and multinational insurers**
  - Greater geographic, political, economic spread of risk

### Classification of Insurers from a Regulatory Perspective

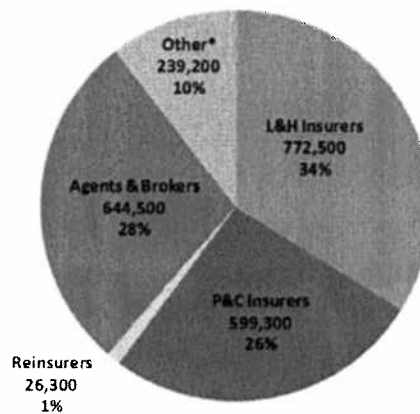
- **Domestic insurer**
  - Domiciled here, i.e. Michigan
- **Foreign insurer**
  - Domiciled in another state, e.g. Ohio
- **Alien insurer**
  - Domiciled outside the U.S., e.g. London, England
- **Admitted insurer**
  - Licensed to write insurance in the insured's state
- **Nonadmitted insurer**
  - Not licensed in the insured's state (must be licensed in at least one state)
  - Referred to as the excess & surplus lines market
  - Does not file rates and policy forms for regulatory approval

### Because insurance exists...



## U.S. Insurance Employment

2011



\*Other includes independent claims adjusters, third party administrators, other service personnel

www.iii.org accessed 5-14-2012

***RMI industry retirements are projected to reach 25% of the workforce by 2018<sup>1</sup>***

***...new, educated professionals are needed to take their places!***

Entry-level Positions	Median Annual Salary National	Median Annual Salary Grand Rapids	Requires Bachelor's degree or higher	Projected Annual Job Growth 2011-2018 Michigan <sup>3</sup>
Agent – Sales	\$44,711	\$44,118	46% <sup>2</sup>	9%
Claims Adjuster I	\$40,507	\$39,970	78%	4%
Risk Analyst I	\$47,462	\$46,832	90%	Not available
Underwriter I	\$49,875	\$45,266	80%	8%

Source: [www.salary.com](http://www.salary.com) April 26, 2012

<sup>1</sup>Building a Talent Magnet: How the Property and Casualty Industry Can Solve Its People Needs, McKinsey & Company, 2010  
[http://www.mckinsey.com/client-service/financial\\_services/~media/Reports/Financial\\_Services/Talent\\_in\\_PandC.ashx](http://www.mckinsey.com/client-service/financial_services/~media/Reports/Financial_Services/Talent_in_PandC.ashx)

<sup>2</sup>O-Net Online, CareerOneStop, U.S. Department of Labor, <http://www.onetonline.org/find/industry?i=52&g=Go>, accessed April 12, 2012

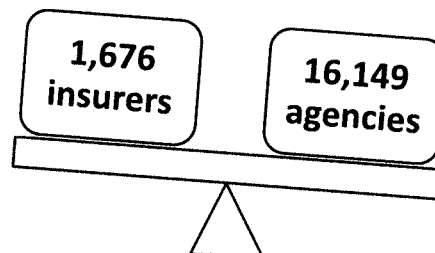
<sup>3</sup>Economic Modeling Specialists, Inc., [www.economicmodeling.com](http://www.economicmodeling.com)

***After at least seven years...***

<b>Top RMI Positions</b>	<b>Median Annual Salary National</b>	<b>Median Annual Salary Grand Rapids</b>	<b>Requires Bachelor's degree or higher</b>
<b>Agency</b>	\$198,222	\$195,592	73%
<b>Claims</b>	\$204,649	\$201,933	89%
<b>Risk Management</b>	\$180,245	\$177,853	93%
<b>Underwriting</b>	\$180,882	\$178,482	88%

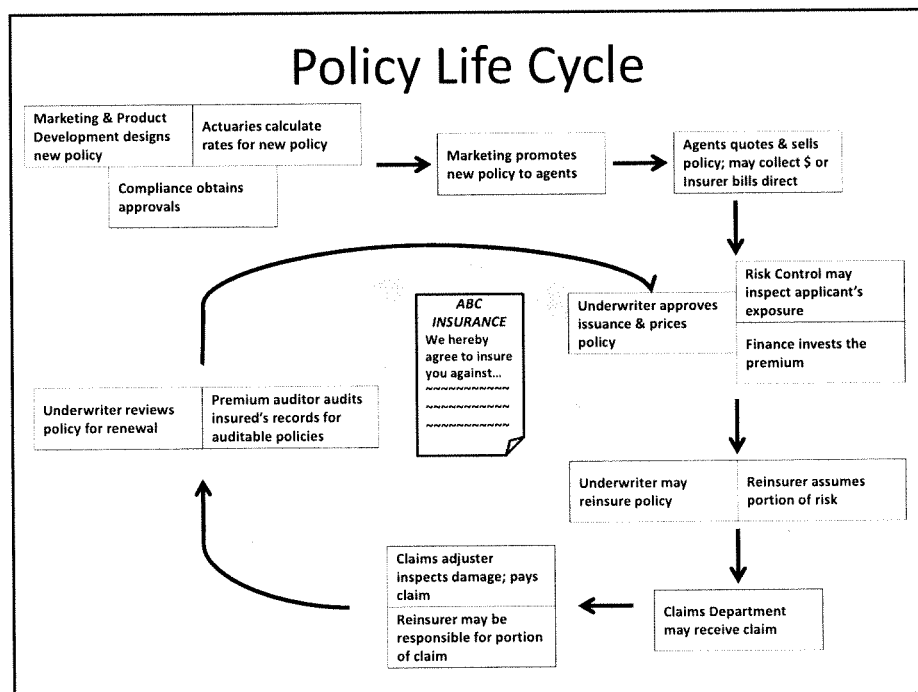
Source: [www.salary.com](http://www.salary.com) April 26, 2012

**Insurance Employers in Michigan**



Michigan Office of Financial and Insurance Regulation 2010 Annual Report,  
[http://www.michigan.gov/documents/lara/2010\\_OFIR\\_Report\\_360129\\_7.pdf](http://www.michigan.gov/documents/lara/2010_OFIR_Report_360129_7.pdf)

## Insurance Functions



## Core Activity: Actuarial

- Data gathering and rate making

$$\frac{\text{Losses}}{\text{Exposure Units}} + \text{Expense Loading} + \text{Profit Loading} = \text{Rate}$$

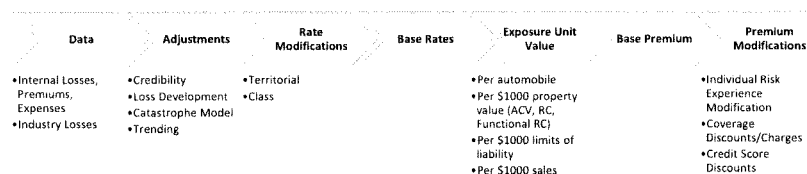
( The actuary's rate is used by the underwriter to calculate the premium:

$$\text{Rate} \times \text{Exposure Unit} = \text{Premium}$$

)

- Class rating and judgment rating
- Regulator filings
- Loss reserving
- Management reports

## Insurance Pricing



*Rates are filed for approval with state regulators as appropriate.  
Rates must be adequate, not excessive, and not unfairly discriminatory.*



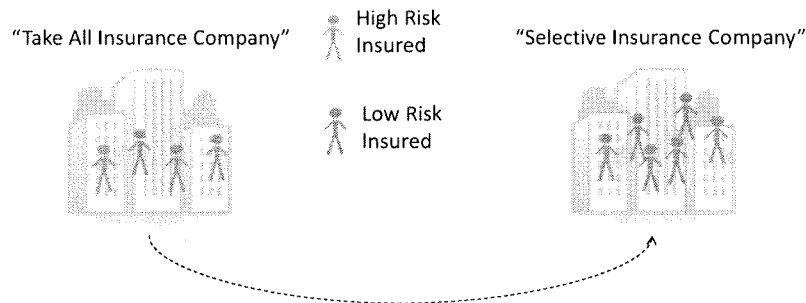
## Core Activity: Distribution

Method	Represents	Independent Contractor or Employee	Compensation	Binding Authority	Owns Expiration Rights (Customer List)	Benefit to Insurer
<b>Independent Agent</b>	One or more insurers	Independent contractor	Commission	Yes, under contract	Yes	Agency established in a market
<b>Exclusive Agent</b>	One insurer	Independent contractor	Commission	Yes, under contract	No	Economies; brand control
<b>Direct Writer</b>	One insurer	Employee of insurer	Salary; possible bonus	Yes	No	Economies; brand control
<b>Direct Response</b>	One insurer	Internet, phone, or mail	n/a	n/a	n/a	Lower cost; brand control
<b>Broker</b>	Insured	Independent contractor	Commission/sometimes fee	No	Yes	

## Core Activity: Underwriting

- Risk selection
- Risk pricing
  - Rate x Exposure Unit = Premium**  
(Rate is determined by the actuary)
- Determine policy terms & conditions
- Reinsurance

## Adverse Selection



And over time...

Selective Insurance Company is able to charge lower rates, attracting all of the low risk insureds, leaving all the high risk insureds at Take All Insurance Company, driving up Take All's losses, with no low risk insureds to share in losses.

## Credit Scores versus Insurance Scores

- Credit reports contain a wide variety of credit information about specific individuals referred to as attributes (e.g. loan balances, types of credit, status of each account, judgments, liens, collections, bankruptcies)
- Insurance-score modelers combine and weight selected credit attributes to create an insurance score; attributes used vary by line of insurance, i.e., personal auto, commercial auto, homeowners
- A low insurance score does not cause more losses, but indicates a propensity for loss
- No single risk factor, such as insurance score, location, or age predicts the total risk; they work in combination

The Relationship of Credit-Based Insurance Scores to Private Passenger Automobile Insurance Loss Propensity, EPIC Actuaries, LLC, June 2003

**Top Three Risk Factors in Personal Auto Insurance in the U.S.**  
Based on calculation of importance in predictive value

Coverage	Factor 1	Factor 2	Factor 3
BI Liability	Age/Gender	Insurance Score	Geography
PD Liability	Age/Gender	Insurance Score	Geography
Personal Injury Protection	Insurance Score	Geography	Years Insured
Medical Payments	Insurance Score	Limit	Age/Gender
Other Than Collision	Auto Model Year	Age/Gender	Insurance Score
Collision	Auto Model Year	Age/Gender	Insurance Score

The Relationship of Credit-Based Insurance Scores to Private Passenger  
Automobile Insurance Loss Propensity, EPIC Actuaries, LLC, June 2003

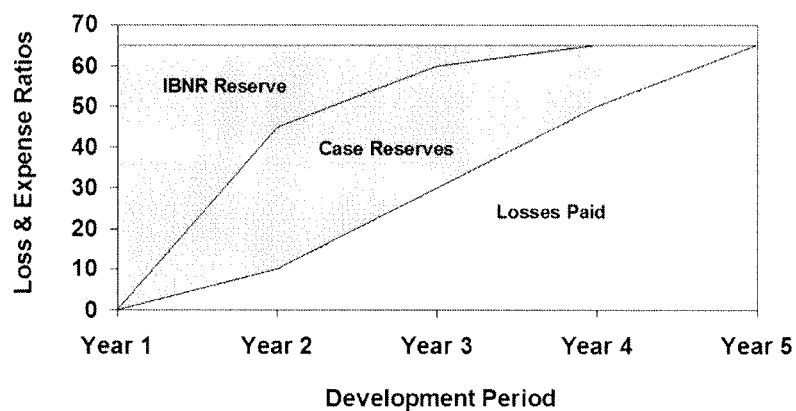
## Core Activity: Claims

- Investigate & settle losses
- Reserving
- Rehabilitation
- Subrogation
- Salvage

## Claims Adjusters

Type	Represents	Independent Contractor or Employee	Compensation	When Used
Staff Adjuster – Inside	Insurer	Employee	Salary	Simple First-Party Claims
Staff Adjuster – Outside	Insurer	Employee	Salary	Complicated First-Party & All Third-Party Claims
Independent Adjuster	Insurer	Independent Contractor	Fee	Overload of insurer, special expertise, remote location
Public Adjuster	Insured	Independent Contractor	Percentage of Settlement (typically 10%)	Large, complex claims, when insured doesn't have time to negotiate settlement
Agent	Insurer	Independent Contractor	Part of Service under policy (commission)	Trusted agents, For very small first-party claims

## Loss Reserving

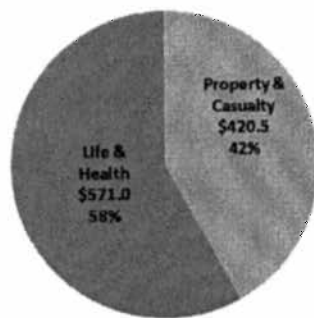


## Types of Insurance

### U.S. L&H and P&C Markets

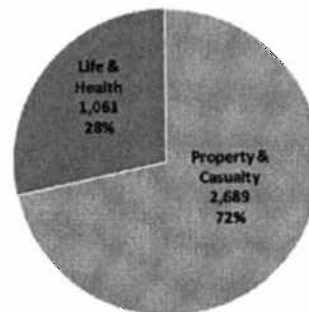
2010

Premium



In billions

Number of Insurers



[www.iii.org](http://www.iii.org) accessed 5-14-2012

## Major lines of L&H Insurance

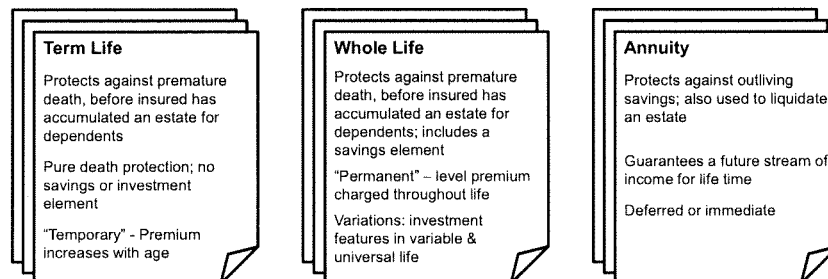
Based on 2009 direct premiums; in billions

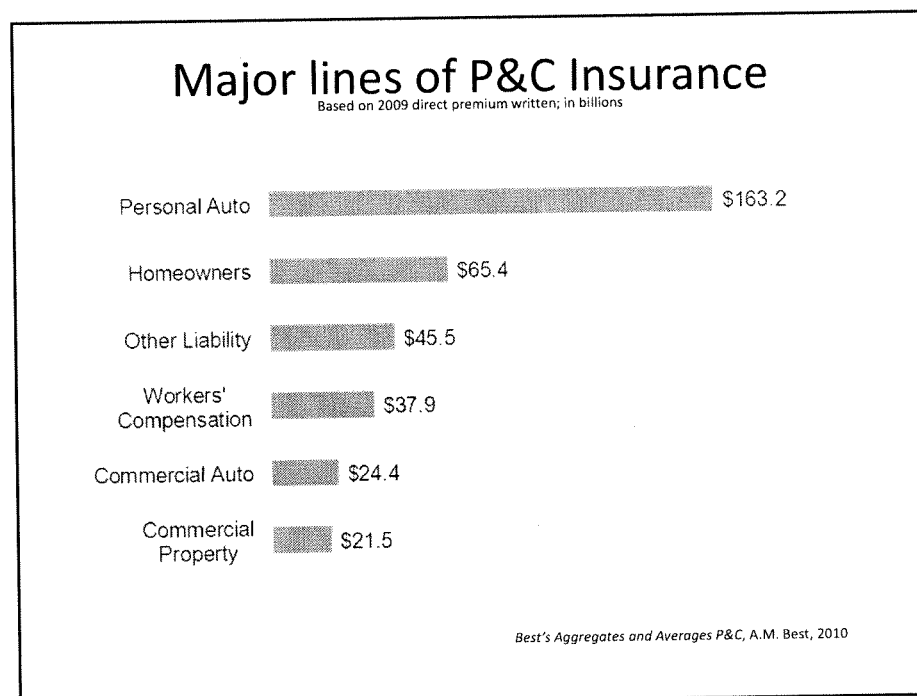
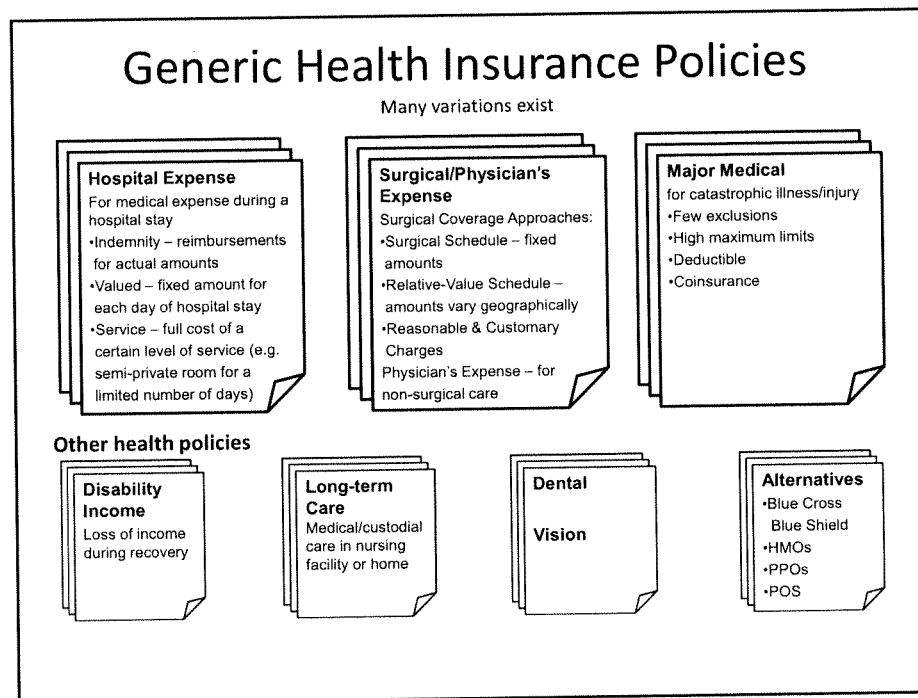


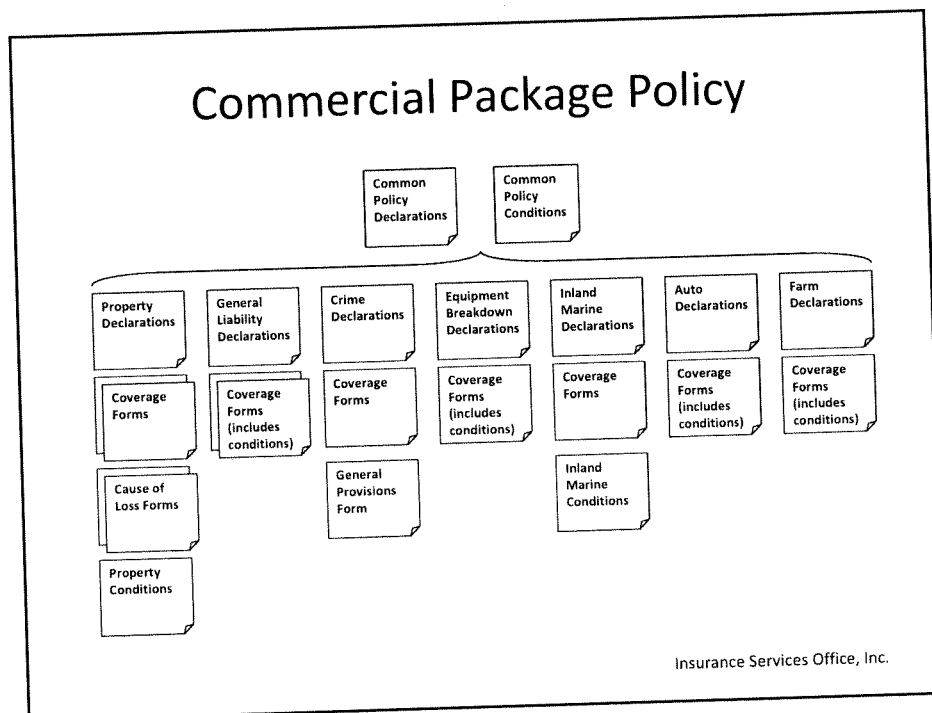
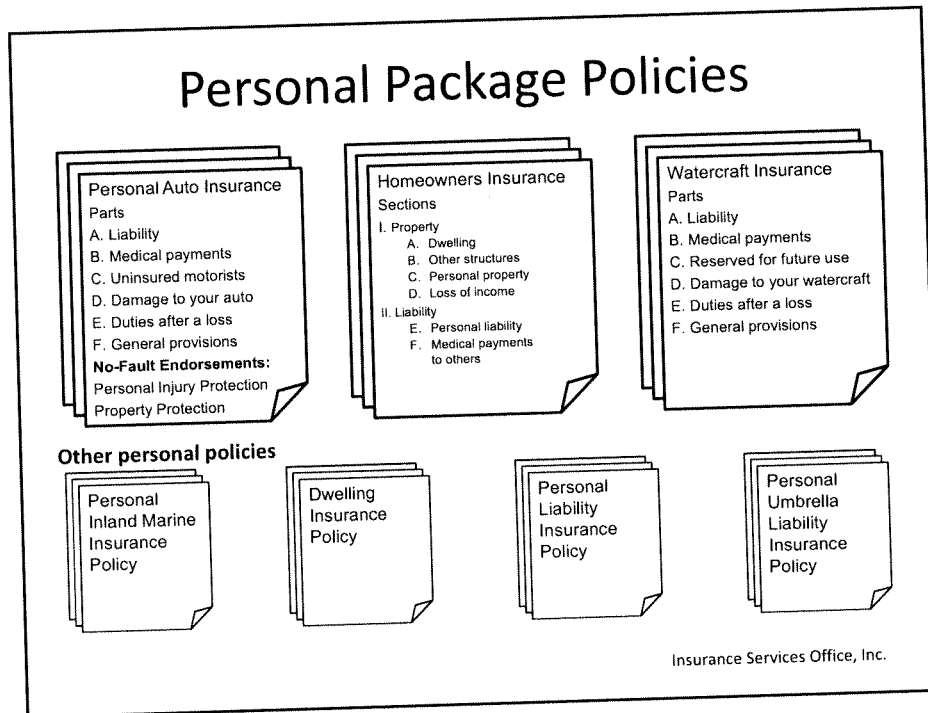
*Best's Aggregates and Averages L&H, A.M. Best, 2010*

## Generic Life Insurance Policies

Tend not to be standard; Many variations exist









## Other Commercial Insurance Policies

### Workers' Compensation and Employer's Liability

#### Parts

1. Workers' Compensation
2. Employer's Liability
3. Other States
4. Your Duties If Injury Occurs
5. Premium
6. Conditions

### Ocean Marine Insurance Policy

#### Coverages

- Hull
- Cargo
- Protection and Indemnity

### Surety Agreements

#### Parts

##### A. Surety Bonds

Failure to perform certain acts; common bonds include: bid bonds, performance bonds, and payment bonds (payment of laborers and suppliers)

##### B. Fidelity Bonds

Fraud or dishonesty (theft, larceny, and embezzlement) committed by a covered employee

### Other Commercial Policies

Commercial Umbrella Liability Insurance Policy

Excess Liability Insurance Policy

Aircraft Insurance Policy

## Specialty Product Lines

### Professional Liability Insurance Policy

#### Common Programs

- Medical Malpractice
- Errors and Omissions
- Architects and Engineers

### Directors and Officers Liability Insurance Policy

#### Insuring Agreements

- A. Protection of directors and officers for wrongful acts
- B. Reimburses corporation for indemnification of claims against directors and officers for wrongful acts
- C. Protection of corporation for securities claims

### Intellectual Property Insurance Policy

#### Coverages

- Property - theft of insured's patents, copyrights, trademarks, and trade secrets
- Liability - inadvertent theft of the intellectual property of others

### Other Specialty Products

Employment Practices Liability Insurance Policy

Fiduciary Liability Insurance Policy

Mortgage Guarantee Insurance Policy

Financial Guaranty or Bond Insurance (Surety Agreements)

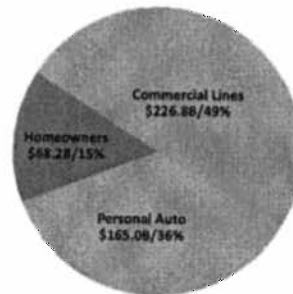
DIC or Controlled Master Program

## Distribution of Property Casualty by Segment/Line

Personal/Commercial lines split has been about 50/50 for many years; Personal Lines overtook Commercial Lines in 2010

Personal Auto is by far the largest line of insurance and is currently the most important source of industry profits

Billions of additional dollars in homeowners insurance premiums are written by state-run residual market plans

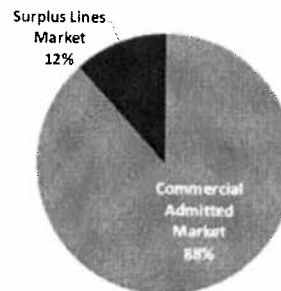


2010 Direct Written Premiums

A.M. Best; Insurance Information Institute research

## The Excess & Surplus Lines Market

- Distressed risks
  - Unacceptable to most insurance companies
- Unique risks
  - Difficult to evaluate
  - New or emerging risks
    - With no appropriate policy forms
    - No previous loss experience
- High-capacity risks (Excess Market)
  - Needing very high limits beyond the underwriting capacity of the admitted market
- Certain niche markets not served by licensed carriers

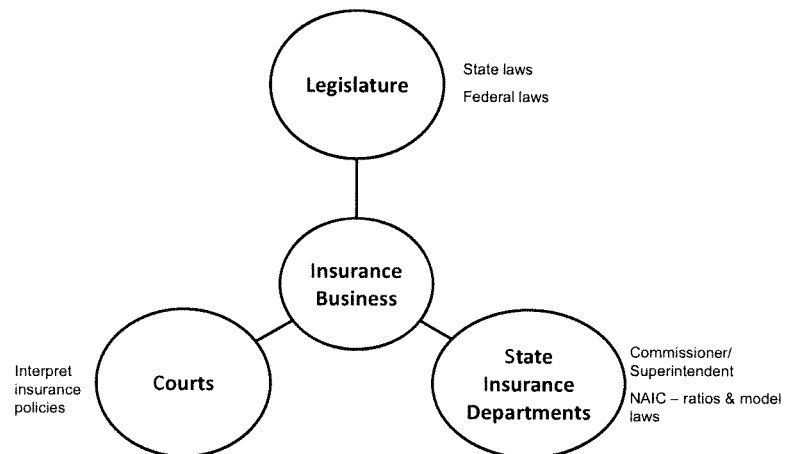


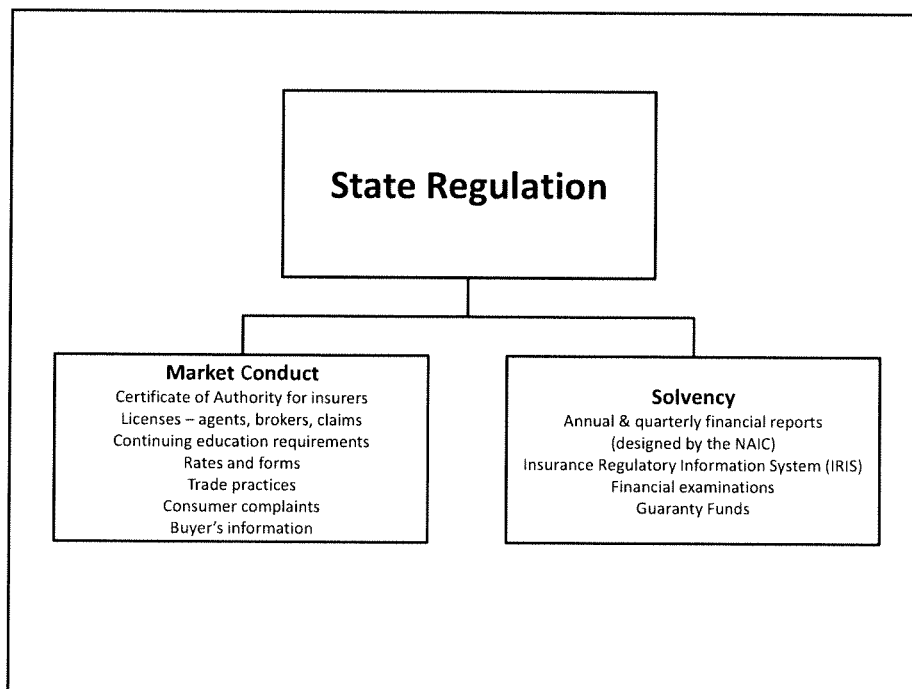
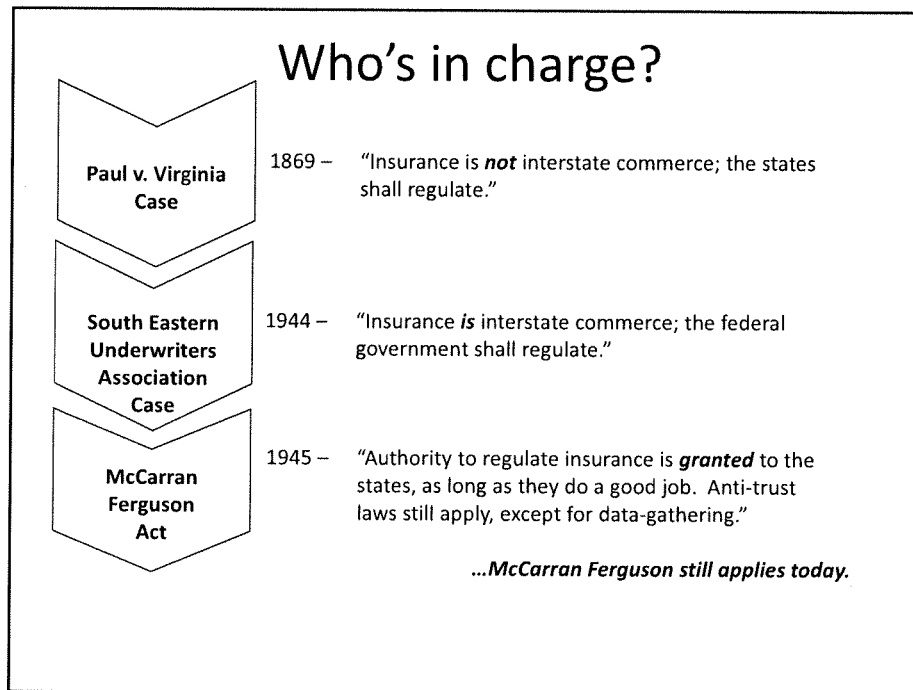
2010 Direct Written Premiums

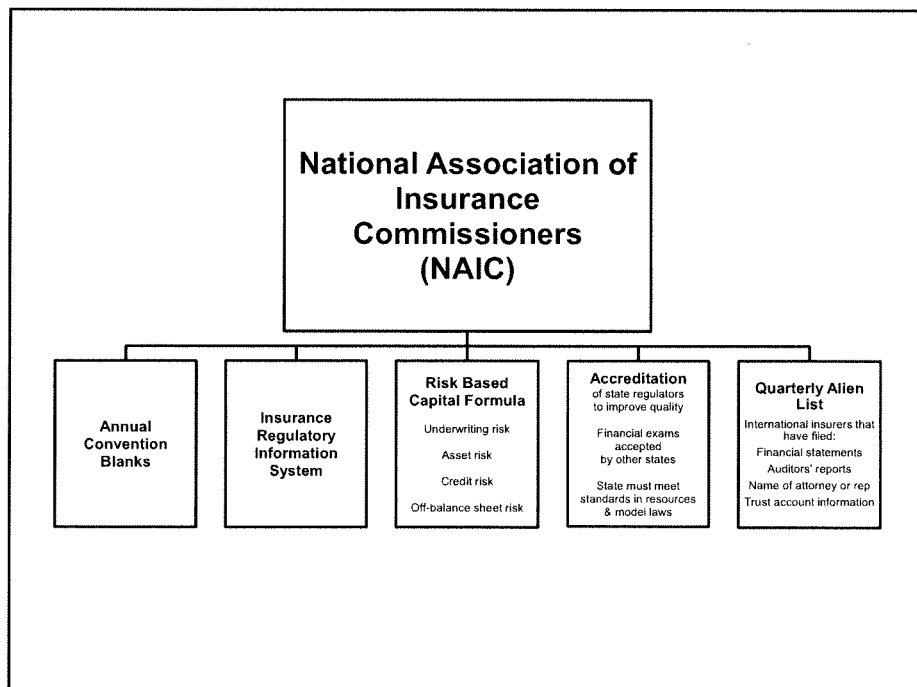
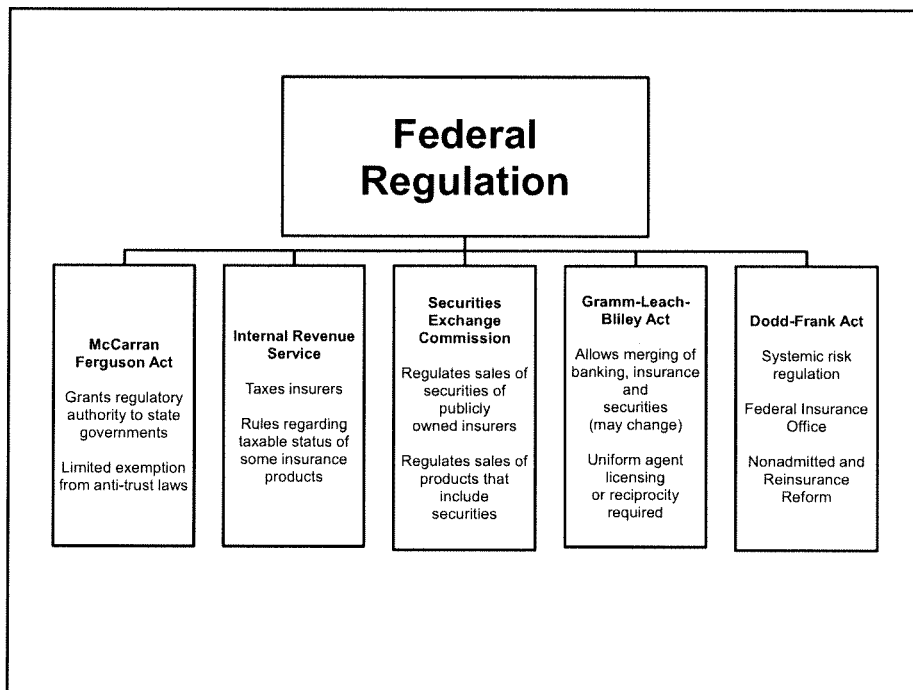
*Best's Special Report – U.S. Surplus Lines – Market Review*, A.M. Best Company, October 1, 2012  
*sigma No. 5/2012*, Swiss Re, September 3, 2012

## Insurance Regulation

### Methods of Regulating Insurance







## Insurance Company Rating Agencies

- **A.M. Best** rates the most insurers, based on a quantitative and qualitative evaluation, as an inducement to operate in a prudent manner and maintain strong financial health.
- **Standard & Poor's** rates insurers' claims-paying ability, and gives qualified solvency ratings unless insurers pay for further analysis.
- **Moody's Investor Service** rates publicly traded insurers for long term risk.
- **Fitch** rates insurers on ability to meet obligations to policyholders and contract holders. Fitch recently purchased the Duff & Phelps rating organization.
- **Weiss Research** publishes safety ratings of property & casualty, life, health & annuity insurers, and Health Maintenance Organizations, placing insurers in a risk-class that describes the likelihood of insolvency; based on independent, published information, Weiss does not meet with insurers to obtain information.
- **Demotech, Inc.** rates property and casualty insurers that demonstrate a financially strong and stable pattern of operations.

## Basis of Insurance Company Ratings

Ratings are typically based on:

- Balance sheet strength: underwriting, financial, and asset leverage
- Operating performance: earnings stability and sustainability
- Business profile: mix of business, competitive market position, and quality of management. Key business profile issues:
  - Spread of risk
  - Revenue composition
  - Competitive market position
  - Management
  - Insurance market risk
  - Event risk
- Some are attempting to determine if insurers have an effective enterprise risk management program

## Best's Ratings Distribution

U.S. Property Casualty Industry as of June 19, 2012

A++, A+ Superior 9.4%

A, A- Excellent 62.9%

B++, B+ Good 18.6%

B, B- Fair 4.5%

C++, C+ Marginal 1.1%

C, C- Weak 0.3%

D Poor 0.0%

E Under Reg Superv 1.3%

F In Liquidation 1.9%

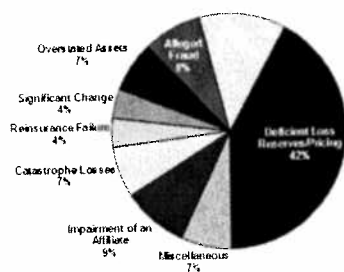
Secure

Vulnerable

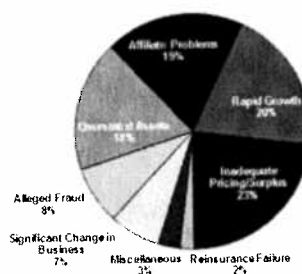
Best's Special Report – U.S. Surplus Lines – Market Review, A.M. Best Company, October 1, 2012

## Primary Causes of Insurer Impairments

US Property & Casualty Insurers  
1976 - 2009



US Life & Health Insurers  
1976 - 1991



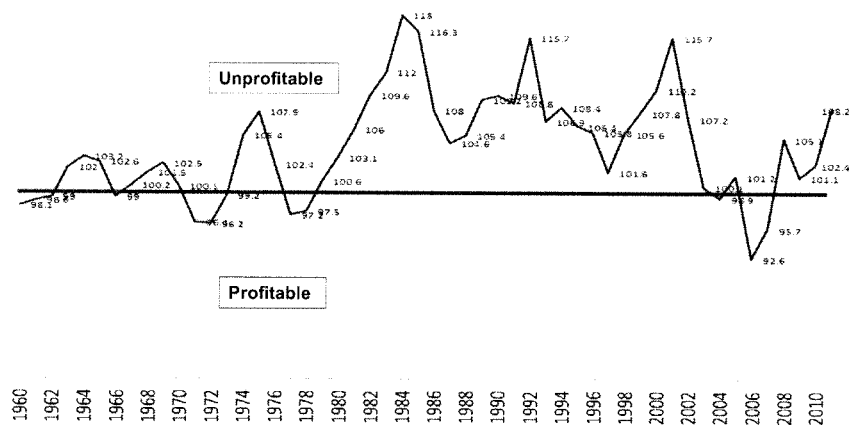
Best's Special Report – Surplus Lines Market 2010, A.M. Best, 2010

Best's Insolvency Study L/H Insurers 1976-1991, A.M. Best, 1992

## Key P&C Ratios

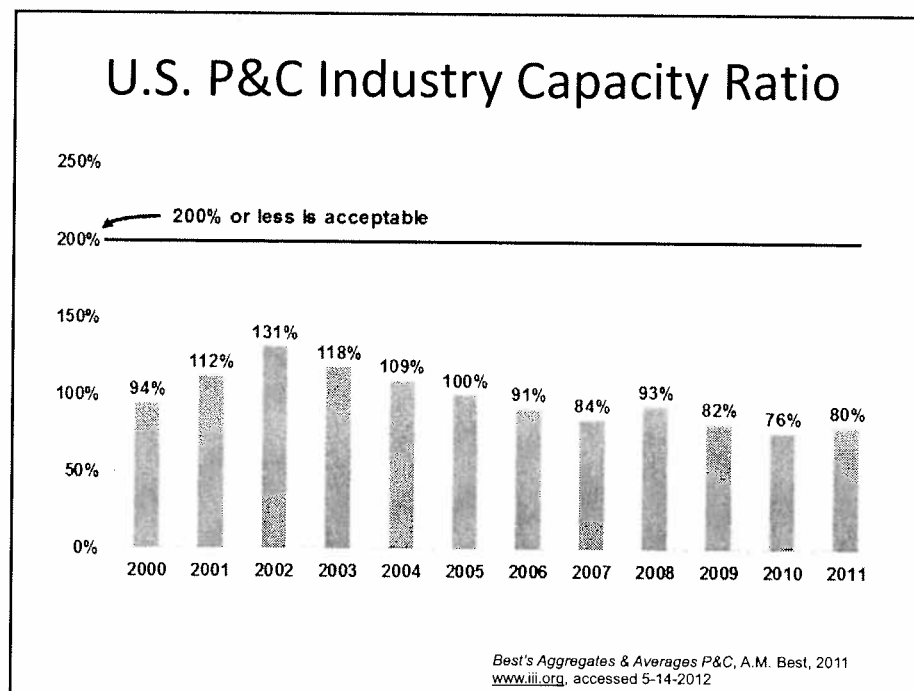
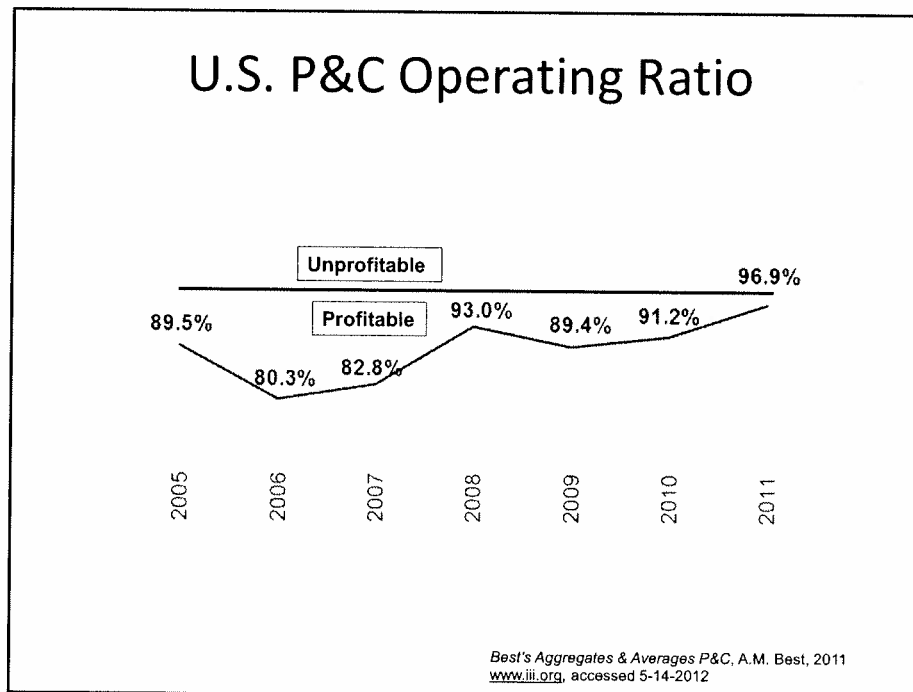
Ratio	Calculation	Target Values
Loss	$\frac{\text{Incurred Losses} + \text{Loss Adjustment Expenses}}{\text{Earned Premiums}}$	$\leq 65\%$
Expense	$\frac{\text{Underwriting Expenses}}{\text{Written Premiums}}$	$\leq 25\%$
Combined	Loss Ratio + Expense Ratio	$< 100\%$
Investment Income	$\frac{\text{Net Investment Income}}{\text{Earned Premium}}$	$\geq 10\%$
Operating	Combined Ratio – Investment Income Ratio	$< 100\%$
Capacity	Written Premiums/Policyholder's Surplus	$< 200\%$

## U.S. P&C Combined Ratio



Best's Aggregates & Averages P&C, A.M. Best, 2011  
[www.aaii.org](http://www.aaii.org), accessed 5-14-2012



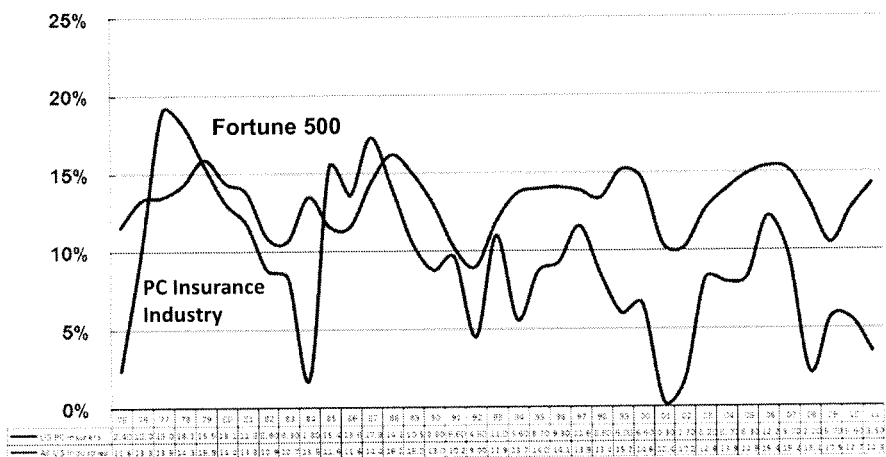


## Return on Equity

$$\text{ROE} = \frac{\begin{array}{l} \text{Overall after-tax profit} \\ \text{(includes underwriting, investment income,} \\ \text{\& unrealized capital gains)} \end{array}}{\text{Policyholders' Surplus}}$$

## U.S. PC Industry ROE vs. Fortune 500 ROE

1975 – 2011\*

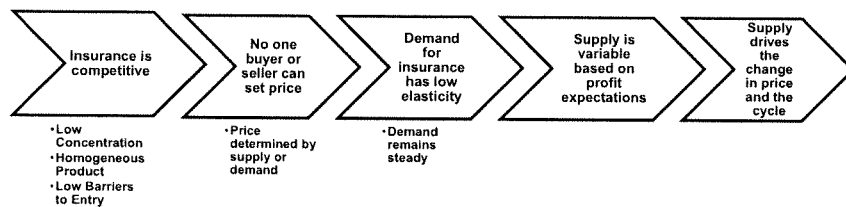


\*2011 is A.M. Best figure excl. mortgage and financial guaranty segments

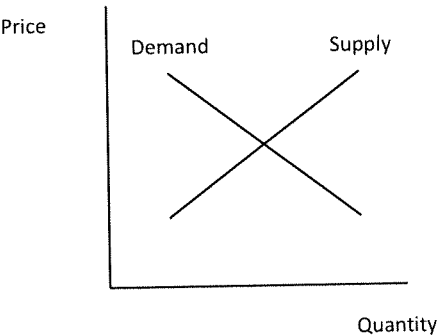
Insurance Information Institute; NAIC, ISO, CNN

## Insurance Market Cycle

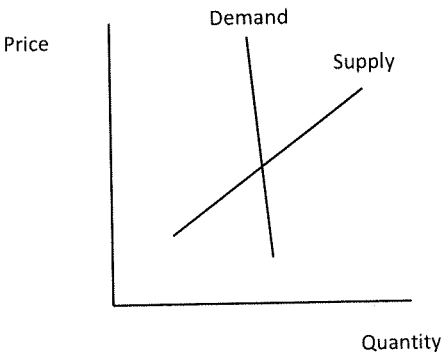
### The Economics of the Insurance Market

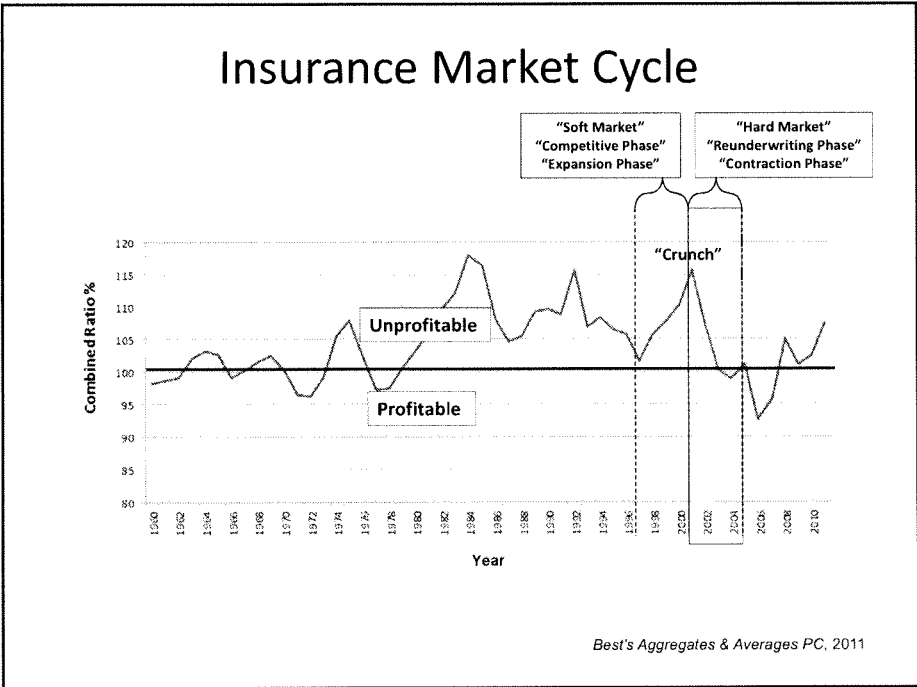
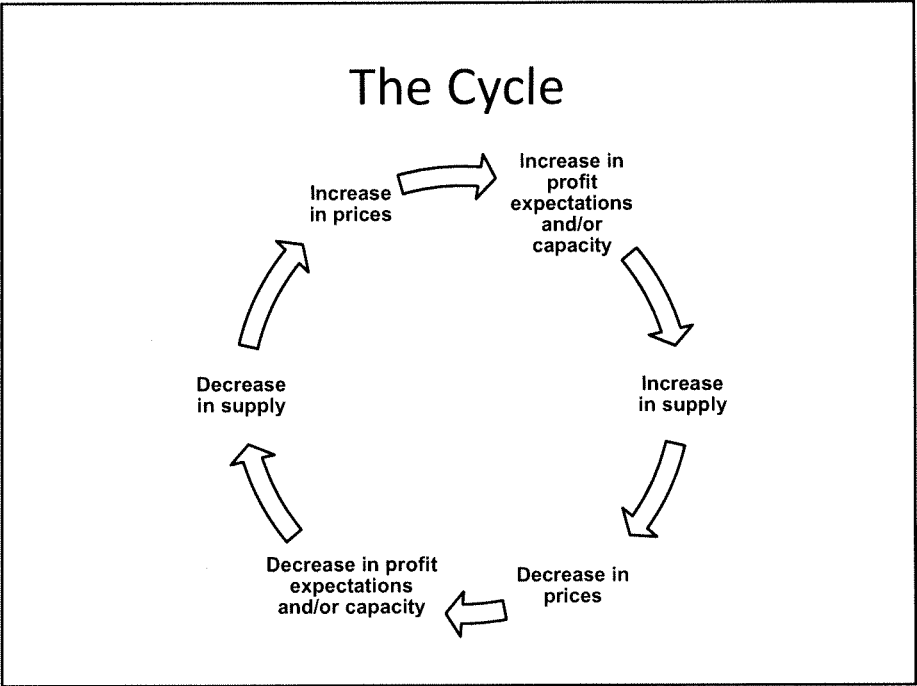


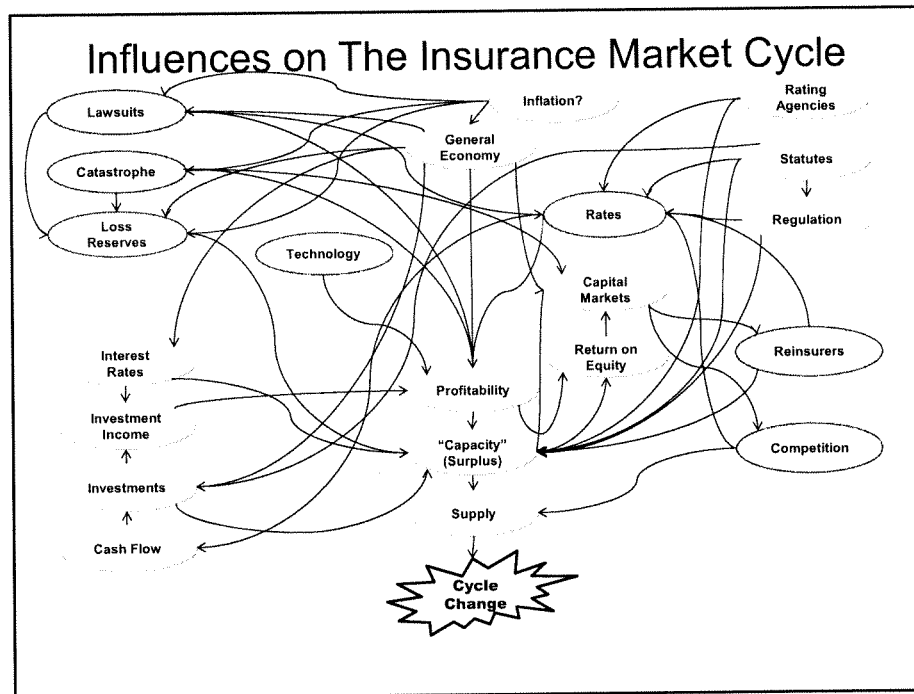
# Supply & Demand in Most Businesses



# Supply & Demand in Insurance







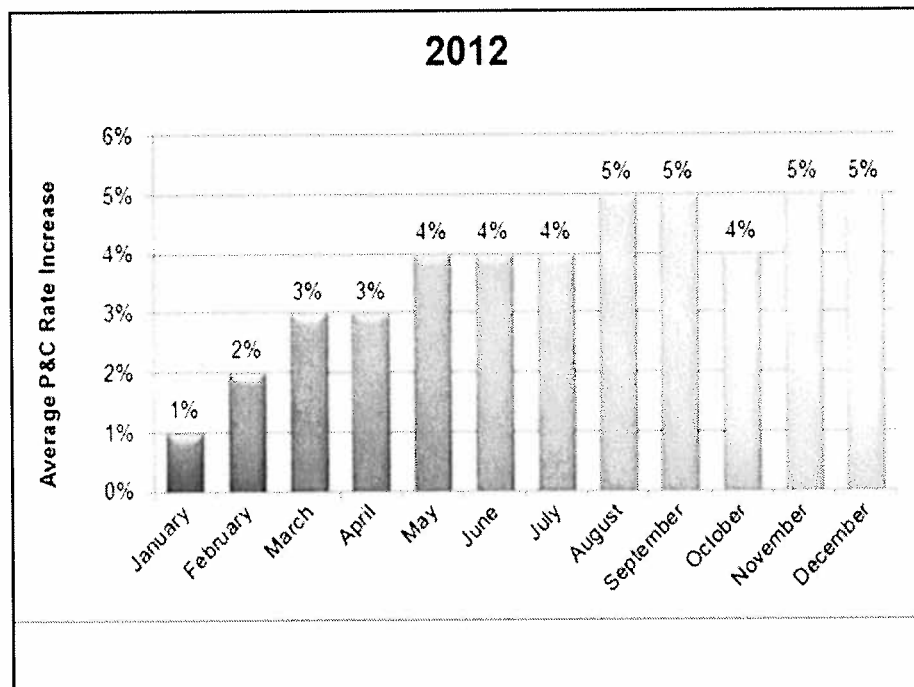
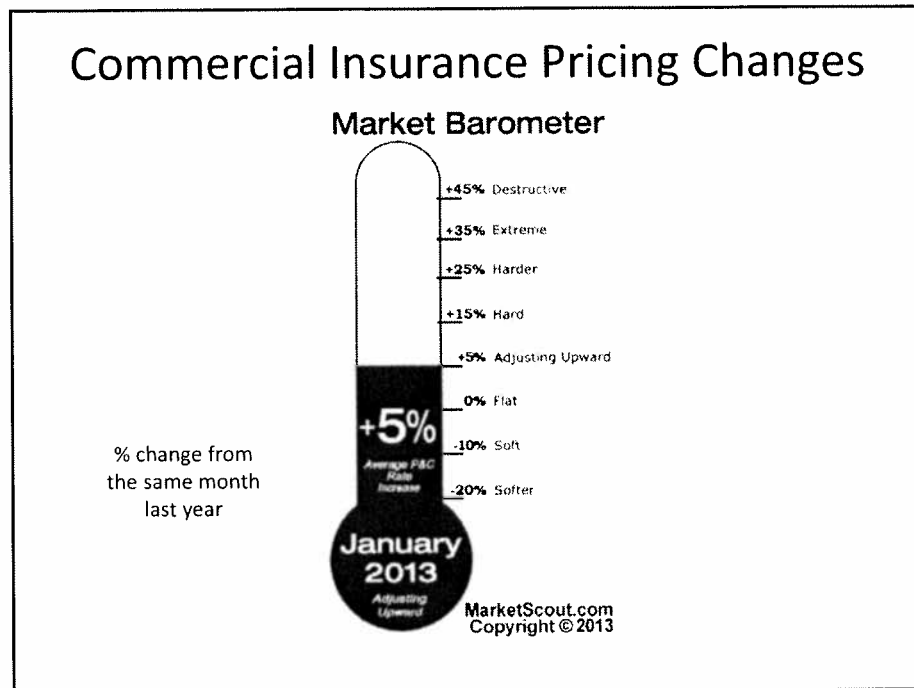
### Impact of the Insurance Cycle on Transaction Variables and Underwriting

#### Soft Market

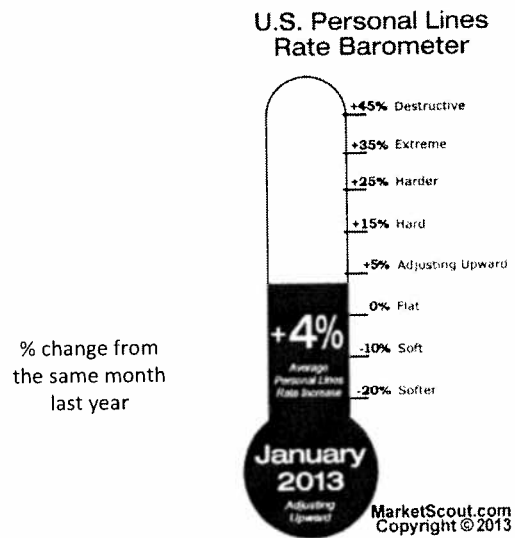
- Information ↓
- Coverage ↑
- Pricing ↓
- Attachment Points ↓
- Capacity/Limits ↑
- Risk Selection Standards ↓

#### Hard Market

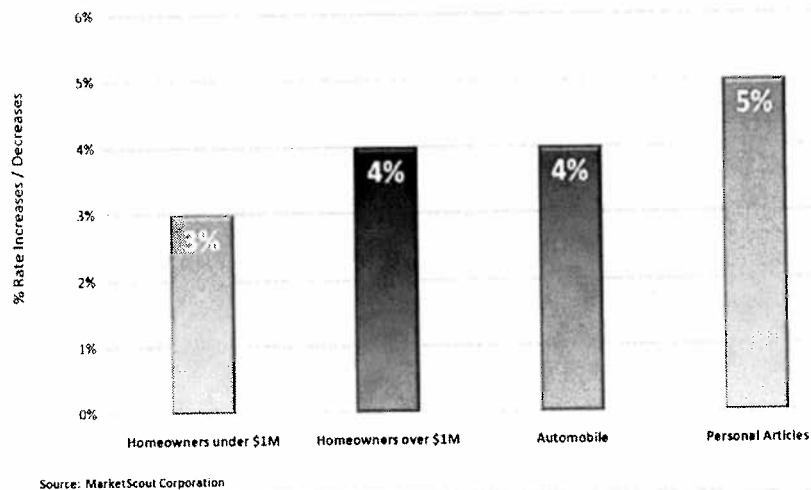
- Information ↑
- Coverage ↓
- Pricing ↑
- Attachment Points ↑
- Capacity/Limits ↓
- Risk Selection Standards ↑



## Personal Insurance Pricing Changes



## Premium Trends by Personal Lines January 2013





### For more information...

- Griffith Insurance Education Foundation <http://www.griffithfoundation.org/>
- Insurance Information Institute <http://www.iii.org/>
- The Insurance Institutes <http://www.aicpcu.org/>
- A.M. Best Company <http://www.ambest.com/>
- National Association of Insurance Commissioners <http://www.naic.org/>
- National Conference of Insurance Legislators <http://www.ncoil.org/>
- Council of Insurance Agents & Brokers <http://www.ciab.com/>
- Market Scout <http://www.marketscout.com/frontend/barometer2.asp>
- Business Insurance (bi-weekly magazine) <http://www.businessinsurance.com/>
- National Underwriter (weekly magazine)  
<http://www.nationalunderwriter.com/servlet/StoreFront>
- Insurance Journal (daily newsletter; free online)  
<http://www.insurancejournal.com/subscribe/magazine/>
- American Risk and Insurance Association (academic trade association)  
<http://www.aria.org/>

### Insurance & Risk Management Glossaries

- A.M. Best: <http://www.ambest.com/resource/glossary.html>
- American Council of Life Insurance:  
<http://www.acli.com/Tools/Pages/Glossary.aspx>
- Guy Carpenter (reinsurance intermediary):  
[http://www.guycarp.com/portal/extranet/utility/glossary\\_a.html](http://www.guycarp.com/portal/extranet/utility/glossary_a.html)
- Insurance Information Institute: <http://www2.iii.org/glossary/>
- International Risk Management Institute: <http://www.irmi.com/online/insurance-glossary/default.aspx>
- Lloyd's of London: <http://www.lloyds.com/Common/Help/Glossary>
- National Insurance Law Service: <http://insource.nils.com/gloss/gloss.asp>